

Remarks

Claims 1-19 are pending in the application, and each was rejected. By this paper, claims 1, 2, 5, 6, 8-10, 12, 16 and 17 are amended, and claim 4 is canceled. Based on the following, consideration of the amended claims, and reconsideration of the remaining claims, are requested.

Claim Rejections—35 U.S.C. § 101

The Examiner rejected claims 1-19 under 35 U.S.C. § 101, stating that "the claimed invention is directed to non-statutory subject matter." Although Applicants maintain that the claims are directed to statutory subject matter, by this paper, claims 1, 2, 5, 6, 8-10, 12, 16 and 17 are amended, and Applicants submit that the Section 101 rejections should be withdrawn. In particular, independent claims 1 and 10 are each directed to a method of validating engine and motor velocities, and include steps that validate engine and motor velocities under certain conditions. These steps provide a useful, concrete, and tangible result for the invention as claimed. In addition, each of these amended claims further recites a step of communicating the validated velocity or velocities to at least one vehicle component. These steps further make the result of the invention as claimed useful, concrete, and tangible.

The Specification of the present application provides ample support for the claims as amended, and no new matter has been added. For example, Paragraph 0031 describes how the PCM receives inputs from sensors and applies a preprogrammed algorithm to validate engine and motor velocities, and the Specification contains many examples of the PCM communicating with various vehicle components—e.g., Paragraph 0018, which describes how the PCM controls the engine and motors; Figure 1, which illustrates the PCM in communication with the transaxle; Paragraph 0025, which describes how the PCM communicates with various sensors and may be on a communication link such as a controller area network (CAN); and Paragraph 0027, which describes how other controllers can be in communication with the PCM through the CAN.

Amended claims 1 and 10 are the base claims for the remaining claims, each of which has additional limitations that provide the basis for a useful, concrete, and tangible result of the invention claimed. For example, claim 2 has been amended to include limitations from claim 4, which accordingly has been canceled. Claim 5 is amended to depend from claim 2, the amendment being necessitated by the cancellation of claim 4. In addition, claims 6, 8, 9, 12 and 16 are amended to include communicating steps similar to those found in claims 1 and 10. Therefore, based on the foregoing, Applicants respectfully request the Section 101 rejections to be withdrawn.

Claim Rejections—35 U.S.C. § 102

The Examiner rejected claims 1-19 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,654,648 (Nada et al.). The Examiner states that "Nada et al. discloses a technique of monitoring abnormality in plural CPUs or controllers of a hybrid vehicle...." The Examiner cites to "the top of the flowchart of figure 10 which teaches determining whether the motor speeds are within a preset/predetermined range, and in the next step therefrom determining if there is an 'occurrence of abnormality' in step S320."

Step S310 referenced by the Examiner is a decision block in which it is determined whether "motor speeds are within [a] preset range." Nada et al. specifically describes the flowchart shown in Figure 10 in column 20, lines 33-53. It is clear from this description that at decision block S310 two different motor speeds are independently determined to see if they are within a corresponding speed range—i.e., each motor speed is separately compared to a speed range. There is no mathematical relationship or equation used to combine these speeds and compare this combination to a single predetermined speed range, as specifically recited in independent claims 1 and 10 of the present application.

The Examiner further states that in column 8, line 39 - column 9, line 44, "Nada et al. particularly discloses the relationship between the basic operations of a hybrid vehicle

and the relative shaft speeds of each of the motors and engines due to the fact that they are all connected through a planetary gearbox whereby the various shaft speeds then hold certain relationships depending on the gear ratio, etc." The Examiner further states that the bottom of column 8 in Nada et al. "gives several equations relating the shaft speeds depending on the number of teeth on the sun and ring gears of the planetary gearbox, by means of which it is determined whether or not there is an abnormality depending on whether the net result for an equation falls within a predetermined range (as taught in the lower portion of column 5)."

Although there are a number of equations presented in column 8 of Nada et al., there is no description of using any of these equations to determine anything about an abnormality either in column 8, or as suggested by the Examiner, in the lower portion of column 5. In fact, the lower portion of column 5 describes the use of multiple controllers to check the results of arithmetic logic operations to verify the validity of the processing of another controller. Nowhere in column 5 is it expressly or inherently described that the arithmetic logic operations are in any way related to the speed and torque equations provided in column 8.

In the "Response to Arguments" section, the Examiner states that "regardless of whether or not separate controllers/CPU's are in control of each of the first and second motors, the main motor control unit inherently performs the claimed validation" First, Applicants respectfully submit that there is no basis for the inherency argument, and request that the Examiner provide an example of something in the reference to support this position. Second, with the exception of the multiple controllers, the Examiner has not specifically addressed Applicants' position on the teachings of Nada et al. The Examiner has not addressed the fact that in Nada et al. S310 deals with two motor speeds compared to different speed ranges, not a single speed range compared to a combination of motor speeds, nor has the Examiner addressed Applicants' explanation of the column 5 and column 8 citations provided by the Examiner.

In addition to the foregoing amendments, claim 17 is amended by this paper to correct an inadvertent use of the word "combined", where "predetermined" should have been used. Support for this change is found, for example, in claim 16, and in the Specification. Applicants believe that each of the pending claims is patentable over Nada et al. Applicants have in good faith attempted to address the rejections with specificity, and to the extent that any issues remain with the pending claims, respectfully request that the Examiner do the same.

Respectfully submitted,

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